



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/766,455

01/28/2004

R. David Morris

ATEX 8784US

3175

1688 7590 06/29/2007
POLSTER, LIEDER, WOODRUFF & LUCCHESI
12412 POWERS COURT DRIVE SUITE 200
ST. LOUIS, MO 63131-3615

EXAMINER

WEINSTEIN, LEONARD J

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

06/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/766,455	Applicant(s) MORRIS ET AL.	
	Examiner Leonard J. Weinstein	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed March 20, 2006 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the statement submitted is not for the instant application as evidenced by a different inventor being listed on each page. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Objections

2. Claim 2 objected to because of the following informalities: the recitation of "the first pump stage includes including an impeller and a port plate in which the impeller is installed, the second stage the port plate and a casing in which a second impeller is installed" in lines 2-4, as best understood by the examiner will be considered to be --- a first pump stage including an impeller and a port plate in which the impeller is installed, and a second pump stage including a second impeller and a casing in which the impeller is installed --- for proper clarity.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 3746

4. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 15 recites the limitation "end plate" and "port plate for the second pump stage" in line 2. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the Office Action on the merits that follows the recitation of an "wherein the port plate for the first pump stage, which is intermediate the end plate and port plate" as best understood by the examiner is considered to be --- the port plate for the first pump stage, which is intermediate the end cap and the casing --- as the previous and remaining claims would suggest that this what is meant by the applicant.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Sutton et al 4,718,827. Sutton teaches all the limitations as claimed for a multi-stage fuel pump including: an inlet section 16 through which low pressure fuel is drawn into the pump, a first pump stage 76 and a second pump stage 72, an outlet section 58 through which high pressure fuel is discharged from the pump, an alignment means, elements 146, 148, 150 and 154, for aligning the components comprising the respective first and second pump stages, elements 76 and 72 respectively, the alignment means, elements 146, 148, 150 and 154, maintaining alignment of the components during and after the pump (fig. 1) is assembled and dissipating forces which

Art Unit: 3746

otherwise would be concentrated about the alignment means which could cause failure of the components (col. 5 ll. 6-24); an inlet section 16 includes an end cap 80 having an opening 88 therein through which fuel is drawn into the pump (fig. 1), a first pump stage 76 including an impeller 96 and a port plate 102 in which the impeller 96 is mounted/installed, and a second pump stage 72 including a casing 104 and an impeller 122 mounted/installed between the port plate 102 and casing 104, the alignment means, elements 146, 148, 150 and 154, including at least one spring pin 154 extending between the end cap 80, through the port plate 102, and into the casing 104 to properly align the inlet section 16 and pump stages, elements 76 and 72 together, and an open channel formed in the end cap, element 150 of element 80, port plate, element 146 of element 102, and casing, element 148 of element 104, in which the spring pin 154 is received; a pair of spring pins 154 for connecting the components, elements 80, 102 and 104, together, the spring pins 154 being installed on opposite sides of the fuel pump, as shown in figure 2 with two pins on opposing sides being surrounded by element 20, and received within the open channels 150, 146, and 148 of elements 80, 102, and 104 of the fuel pump as discussed, on each side of the fuel pump (fig. 1); an end cap 80 has first and second open sided pockets/recesses, element 164 within element 108 and located in two opposing locations in element 108, formed therein for supporting one end of each spring pin 154 and the casing 104 has first and second open sided pockets/recesses, elements 164 within element 132 and located in two opposing locations in element 132 as shown in figure 2, formed therein for supporting the other end of each spring pin 154; a the port plate 102 for the first pump stage 76, which is intermediate the end cap 80 and casing 104 for the second pump stage 72, has a pair of open sided channels 146 formed therein through which the spring pins 154 extend; a spring 154 pin having a hollow, cylindrical shape 158 with a longitudinal slot 160 extending the

Art Unit: 3746

length of the pin 154, the pins 154 being made of a spring material (col. 5 ll. 6), and each pin 154 being compressed when inserted in place for the pin 154 to thereafter press against a sidewall of the channel 146 in which it is inserted, the force exerted by the pin 154 on the channel sidewall maintaining alignment of the components (col. 5 ll. 6-24); further a multi-stage fuel pump having recesses 164 formed in the end cap, element 108 of 80, and casing, element 132 of element 104, and the channels 146 formed in the port plate 102 through which the spring pins 154 are inserted to align the components all open into a sidewall, element 78 of element 80, element 106 of element 102, and element 128 of element 104, of the respective component so forces transmitted from a spring pin 154 to the component are dissipated through the component rather than concentrated about the recess 164 or channel 146, thereby to prevent cracking of the component; a fuel pump (fig. 1) provided with pins 154 made of a spring material (col. 5 ll. 6) the springs 154 being compressed when the inserted in the channels 146 of the port plate 102 with the pins 154 thereafter expanding against a sidewall of the channel 146 with the force exerted by the pin 154 on the channel sidewall maintaining alignment of the components (col. 5 ll. 6-24) ; and two spring pins 154, as shown in figure 2, and the open channels, elements 150, 146 and 148, respectively formed in the end cap 80, port plate 102, and a casing 104 are arranged in a predetermined angular relationship (col. 5 ll. 10-24) with each other for proper alignment of the fuel pump (fig. 1) components during pump assembly.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are cited in form 892 herewith.

Art Unit: 3746

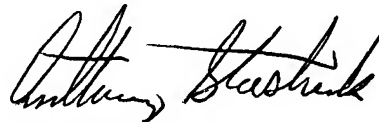
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard J. Weinstein whose telephone number is 571-272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



LJW



ANTHONY D. STASHICK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700